**Water Environment Solutions**



**The regions of the world are now threatened by acute water shortages due to economic growth, surging population growth, climate change, and other reasons.  
Advancing the international agenda on improvement of drinking water and sewage treatment system, we will have to cope with issues such as realization of saving-energy and water circulation for reuse, along with assimilating the water quality level and one of high coverage of drinking water supply system and sewage system in Japan.  
The 21st century has been called the century of water. The Hitachi Group is dedicated to applying its technology to try to proactively resolve the water problems that face the world today.**

(Released in September 2010)

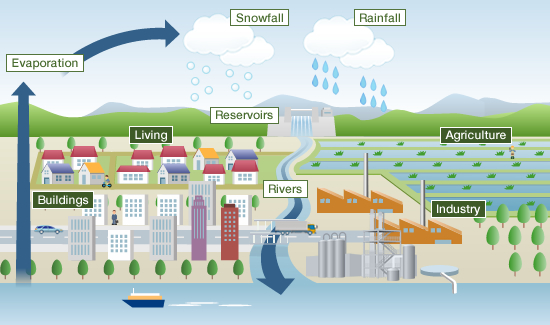
**Water circulation**



Water is circulating between the air, land, and oceans or lakes. As the sun heats up the earth, it causes water to evaporate and turn into water vapor, and it creates clouds and eventually it rains or snows. The rain or snow that falls on mountains runs into lakes and rivers, which eventually flows to the sea and is evaporated. Water is constantly being circulated in this cycle. However, the majority of water on Earth is seawater. It is said that the fresh water that is usable to humans accounts for less than 1% \*1 of the water on the planet.  
As such, we need to rethink the efficient use of this circulating water in our daily lives, treating it as the precious resource that it is.

\*1

Ministry of Land, Infrastructure, Transport and Tourism(2009): Water Resources in Japan



**Contributing to safe and reliable water resources**



Hitachi has always supported the everyday lives of people. In a wide range of fields, including water resource conservation, water supply and sewage development, flood control and water utilization, we have continuously provided the most advanced technology and products to maximize our contribution to society.  
Today, we provide total support for water supply and sewage infrastructure, such as water processing equipment that uses the latest technology, maintenance management and control systems, and advanced simulation technology.  
Access to safe and reliable water for everyone in the world. This is the objective of the Hitachi Group's total solution for the water environment.

**Total support for water circulation processes**



The water flowing around us every day sometimes causes floods or high tides, or sediment damage. Controlling this water to ensure a stable water supply for everyone is very important.  
In the fields of flood control and water utilization, we offer total solutions that address specific needs from water level measurement and facility management to comprehensive wide-area systems. Our other developments include wide-area flood control support tools, sensor networks, and a forecasting system for water quality incidents that uses downstream simulations.

* Highly Reliable Flooding Pumps
* Watershed/Environment Information Systems with Integrated GIS
* Wide-Area Flood Control Support Tools
* Real-Time Flooding Simulator
* Wide-area Wireless Sensor Network



The Earth has been called the water planet, and the majority of water is seawater. The worldwide distribution of water resources is uneven on earth. The key issue is how to collect water from abundant regions and supply them to regions with water shortages.  
Large-scale irrigation and water delivery projects are being developed worldwide to address these global problems of water shortage and water resource instability. The Hitachi Group has gained extensive knowledge of technology such as pumps for water purification, rainwater and sewage water conveyance, and we are utilizing this expertise as we participate proactively in large-scale overseas projects.

* [Pumps](http://www.hitachi-pt.com/products/si/pump/)
* [Mubarak Pumping Station](http://www.hitachi.com/csr/highlight/2005/act0501/)



Fresh water is steadily decreasing in the world. Today, advanced processing is required for various types of water to produce safe and drinkable water. In other words, technology for refining water has become an absolute necessity.  
The Hitachi Group has developed advanced water processing technology, such as organic matter processing, and processing for nitrogen, phosphorus, heavy metals, and toxic substances that is difficult to decompose. In addition, we are attempting to reduce power consumption in highly-developed water treatment systems.

* Water Purification Membrane Filtration Monitoring and Control System
* [Drinking water treatment system](http://www.hitachi-pt.com/products/es/water/cleanwater/)
* [Seawater RO (Reverse Osmosis) Desalination System](http://www.hitachi-pt.com/news/2009/20090206.html)



Water can be used without difficulty in Japan owing to high coverage of tap water system. Since the Japanese population is forecast to decline in the future, the business focus will be shifted from expantion of water treatment capacity to maintenance and conservation. We will also need to address the issues of aging water treatment facilities and technology succession.  
Hitachi will work to achieve sustainable water circulation by taking into account environmental problems and the declining birthrate. We have achieved numerous successes in the water sector, including technological developments, product supply and after-sales services. On this basis, the Hitachi Group provides comprehensive maintenance, management and service solutions through public-private partnerships.

* Solutions for Water Operations
* Facility Management, Patrol and Inspection PDA Systems
* Water Pipeline Information Management Systems
* Water Distribution Control Systems



As the importance of water resources has increased, water pollution has become a more serious problem. Water quality monitoring is a life-or-death matter. Water safety is required to monitor over a wide area, from the water treatment plants and distribution reservoirs to the water supply tap in ordinary homes.  
The water supply and sewage system in Japan is well developed, and tap water can be drunk with peace of mind. The Hitachi Group's monitoring and control system is one of the technologies that supports this water environment. Using information technology, we provide an integrated data surveillance system. We have delivered our surveillance and control systems for water supply and sewage to local governments and organizations both in Japan and overseas.

* Water Supply and Sewage Monitoring and Control Systems
* Water Supply HACCP Systems
* Water Quality Analysis and Control Systems
* Intruder Monitoring Systems



Our water resources are precious. To avoid wasting them, we can clean and reuse our dirty water. And if we clean our water and return it to nature, then we can maintain a healthy water circulation and protect our ecosystem.  
In the treatment of sewage and sludge, Hitachi is encouraging the reuse of water by improving the water quality. We are also developing better technology for reducing the CO2 emissions in these processes. In addition, our ballast water purification systems separate and remove bacteria from water at high speed and without using disinfectants. We are applying this technology not only to ships, but also to purification systems in other fields, such as cleaning up oily wastewater.

* [Sewage Treatment Systems <Pre-treatment/water treatment facilities>](http://www.hitachi-pt.com/products/es/water/wastewater/)
* [Sewage Treatment Systems <Sludge treatment facilities/others>](http://www.hitachi-pt.com/products/es/water/wastewater2/)
* [Industrial Water Treatment Systems](http://www.hitachi-pt.com/products/es/environment/)
* [Ballast Water Purification System](http://www.hitachi-pt.com/products/es/ballast/)



As water resources are limited, we will reclaim wastewater. The reclaimed water is important countermeasures to water shortage. Today there is a demand for reusing water, and technology is being developed for recirculating and reusing sewage and wastewater.  
The Hitachi Groups provides ozone microbubble technology for reusing sewage. We are also participating in the "Water Plaza" project to create advanced water circulation systems. This project reclaims water through an integrated system of seawater desalination, sewage reuse and industrial wastewater treatment. In the Maldives, we are involved in a business that operates the water supply and sewage system. And through our activities in the Limited Liability Partnership Global Water Recycling and Reuse System Association, Japan, we aim to provide total solutions specific to the needs of each country and region.

* [Ozone Microbubbles](http://www.hitachi.co.jp/products/power/eel-e/products/industrial/wastewater/ozone/index.html)
* Water Circulation System (Kitakyushu City Water Plaza)
* Water Circulation System (Shunan City Water Plaza)
* Water Circulation System (UAE)
* [Water Supply and Sewage Operation and Management (Example: Maldives)](http://www.hitachi-pt.com/news/2010/20100112.html)
* [Limited Liability Partnership Global Water Recycle and Reuse System Association, JAPAN　 (Open in new window)](http://www.gwra.jp/en/)

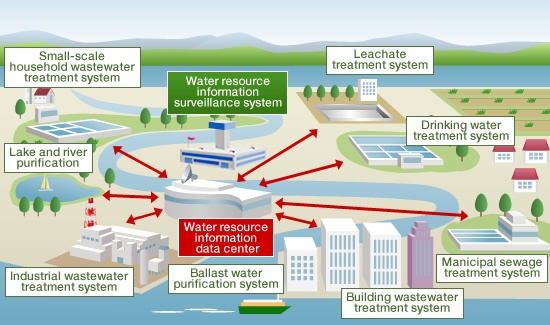
\*2

Limited Liability Partnership, Global Water Recycling and Reuse System Association, Japan: An association that was established to bring together companies in Japan that are involved in the water sector, and to build partnerships with government and academia. It aims to utilize the technology and know-how available in Japan to develop water circulation systems and expand such systems overseas.

**Global expansion of water circulation total solutions**



Hitachi is launching a new movement to address the various issues related to water.  
This is the "Intelligent Water" concept.  
We will use information technology for water information management and simulations, to investigate issues ranging from the condition of tap water, to household and industrial waste. Our mission is to develop water supply and sewage processes that are more efficient and environmentally conscious.



The Hitachi Group will use our technology and integrated strengths to continue the global expansion of our highly reliable products and systems, and our high-tech total solutions for the water environment. We intend to improve water environment around the world.

**Further information on our business operations and products**

* [Hitachi Plant Technologies, Ltd.](http://www.hitachi-pt.com/)
* [Hitachi High-Tech Control Systems Corporation.](http://www.hitachi-hitec.com/global/)
* [Hitachi Information & Control Solutions, Ltd.](http://www.hitachi-ics.co.jp/product/english/index_en.htm)
* [Hitachi Engineering & Services Co.,Ltd.](http://www.hitachi-hes.com/en/)
* [Hitachi Industrial Equipment Systems Co.,Ltd.](http://www.hitachi-ies.co.jp/english/)

http://www.hitachi.com/environment/showcase/solution/industrial/aquatic\_environment.html